



U.S. Department
of Transportation

Pipeline and Hazardous Materials
Safety Administration

12300 W. Dakota Ave., Suite 110
Lakewood, CO 80228

CERTIFIED MAIL - RETURN RECEIPT REQUESTED

December 28, 2018

Mr. Richard D. Kinder
Executive Chairman
Kinder Morgan, Inc.
1001 Louisiana Street, Suite 1000
Houston, Texas 77002

CPF 5-2018-5007S

Dear Mr. Kinder:

Enclosed is a Notice of Proposed Safety Order (Notice) issued in the above-referenced case to your subsidiary, Santa Fe Pacific Pipeline Partners, LP (SFPP). The Notice proposes that SFPP take certain measures with respect to SFPP's El Paso-to-Tucson 12-inch refined products pipeline. These measures are needed to ensure public safety and to protect the environment. SFPP's options for responding are set forth in the Notice. Your receipt of the Notice constitutes service of that document under 49 C.F.R. § 190.5.

We look forward to a successful resolution of this matter to ensure pipeline safety. Please direct any questions on this matter to me at (720) 963-3160.

Sincerely,

Chris Hoidal
Acting Director, Western Region
Pipeline and Hazardous Materials Safety Administration

Enclosure: Notice of Proposed Safety Order

cc: Mr. Alan K. Mayberry, Associate Administrator for Pipeline Safety, OPS
Ms. Linda Daugherty, Deputy Associate Administrator for Field Operations, OPS
Mr. Wayne Simmons, Chief Operating Officer, Kinder Morgan, Inc.
Mr. Edward Fant, Compliance Director, Kinder Morgan, Inc.

PHMSA Activity #163784

**DEPARTMENT OF TRANSPORTATION
PIPELINE AND HAZARDOUS MATERIALS SAFETY ADMINISTRATION
OFFICE OF PIPELINE SAFETY**

In the Matter of

**Santa Fe Pacific Pipeline Partners, LP,
a subsidiary of Kinder Morgan, Inc.,**

Respondent

CPF No. 5-2018-5007S

NOTICE OF PROPOSED SAFETY ORDER

Background and Purpose

Pursuant to Chapter 601 of Title 49, United States Code, the Pipeline and Hazardous Materials Safety Administration (PHMSA), Office of Pipeline Safety (OPS), has initiated an investigation into the safety of Santa Fe Pacific Pipeline Partners, LP's (SFPP or Respondent) 12-inch-diameter El Paso-to-Tucson (12-inch EPT) Pipeline following a gasoline release in Dona Ana County, near Anthony, New Mexico. The pipeline ruptured and spilled approximately 6000 barrels of gasoline into a drainage ditch at approximately 2348 MST on December 13, 2018 (Failure). SFPP operates the SFPP 12-inch EPT Pipeline as a subsidiary of Kinder Morgan, Inc. (KMI).

Based on our preliminary investigation, it appears that conditions potentially related to the cause of the Failure may exist on other segments of the 12-inch EPT Pipeline. PHMSA believes these conditions may pose similar pipeline integrity risks to public safety, property or the environment along other portions of the 12-inch EPT Pipeline right-of-way (ROW). Pursuant to 49 U.S.C. § 60117(l), PHMSA issues this Notice of Proposed Safety Order (Notice), notifying you of the preliminary findings of the investigation and proposing that you take immediate and near-term measures to ensure that public safety, property, and the environment are protected from the potential integrity risks.

For the purposes of this Notice, the term "SFPP 12-inch EPT Pipeline" means the entire 12-inch diameter, refined products pipeline running from El Paso, Texas, to Tucson, Arizona, a distance of approximately 288 miles. The pipeline includes SFPP line sections (LS) generally known as LS-17, LS-18 (failed segment), LS-19, LS-21, and LS-22.

Preliminary Findings:

- On December 14, 2018, at 0258 MST, KMI notified the National Response Center (NRC) of a release of gasoline from its 12-inch EPT Pipeline (LS-18) near Anthony, New

Mexico. PHMSA deployed two investigators to the scene of the accident and PHMSA personnel were on-site from December 15, 2018, through December 21, 2018.

- The 288-mile-long, 12-inch EPT Pipeline delivers refined petroleum products westward from KMI's El Paso Tank Farm to the company's Tucson, Arizona products terminal.
- Initial estimates by KMI to the NRC reported (NRC Reports # 1232949 and #1232959) a release of 6000 barrels of gasoline from the 12-inch EPT Pipeline. The release was in a north-south trending drainage ditch located to the east and parallel to 3 Saints Road in Dona Ana County, New Mexico (Failure Site). The ditch appears to discharge eventually into the Rio Grande River; however, the drainage ditch was dry at the time of the release and no gasoline entered the river or any environmentally sensitive areas.
- While there was no fire, injuries or fatalities resulting from the release, local emergency officials required the evacuation of three residences in the area. Locations meeting the definition of an "Unusually Sensitive Area" (USA), as defined by 49 CFR § 195.6, and agricultural fields are located immediately to the west of 3 Saints Road, as is the Rio Grande River, approximately one mile away.
- The ruptured, east-west flowing 12-inch EPT pipe section was exposed at the bottom of the drainage ditch for approximately 25 feet. Specifically, the upper half of the 12-inch EPT line was exposed to the atmosphere for the entire width of the ditch. A second 8-inch-diameter SFPP pipeline lies parallel to the 12-inch EPT Pipeline and was also visible at the bottom of the ditch. KMI reported the 8-inch line to be purged and filled with inert nitrogen. A third, more recently installed, 16-inch-diameter KMI pipeline is in the same ROW, carries refined product, and is bored under the drainage ditch.
- The 12-inch EPT Pipeline consists of 1964-vintage steel pipe manufactured by US Steel. The pipe is constructed of 0.188-inch-thick, rolled X-52 steel joined by high-frequency electric resistance welded (HF-ERW) longitudinal pipe seams.
- The pipeline utilizes an impressed cathodic protection system to guard against external corrosion. A corrosion-control rectifier was located immediately to the northeast of the Failure Site. At this time, PHMSA has not confirmed which pipeline(s) the rectifier was protecting from external corrosion.
- The pipe coating at the Failure Site appears to be a tape wrap coat; however, the specific coating manufacturer is unknown. The portion of the coating exposed to the atmosphere and in the partially-buried pipeline segment appeared to be degraded and disbonded from the steel pipe. This poor coating condition could have led to the creation of a corrosive environment or inhibited the effectiveness of the impressed cathodic protection system.
- The release occurred from a longitudinal split approximately 22 to 24 inches long, located at the 5:30 o'clock position (looking downstream) of the pipe. The split appeared to be concurrent with an area of general external corrosion and the failure edges exhibited areas of pipe-wall thinning. The black-colored tape wrap was not adhered well to the

pipe, i.e., it appeared to be “disbonded.” Part of the circumference of the pipe opposite the split appeared to have been painted yellow where it had originally been exposed to the atmosphere.

- An inline inspection (ILI) survey of the 12-inch EPT Pipeline was conducted in 2010 and again in 2015, utilizing a high-resolution magnetic flux tool to detect metal loss. Deformation ILI surveys were conducted at the same time as the 2010 and 2015 ILI metal loss surveys.
- There were two previous repairs made immediately east of the rupture location and in the same drainage ditch as the failure. They were reported by KMI to be two “ClockSpring ®” wraps applied in 2011 over dents detected by KMI’s 2010 ILI survey. These two repairs were conducted to 1) confirm the condition of a previously “undocumented” dent repair, and 2) repair a dent close to the undocumented repair.
- The 2015 ILI survey noted external corrosion anomalies ranging from 13 to 17 percent in total wall thickness loss in the immediate vicinity of the rupture location. Preliminary visual examination of the failed pipe segment, however, indicates wall thinning in the rupture area of the pipe. This overt thinning may indicate rapid external corrosion after the 2015 ILI metal loss tool was run and resulting data analyzed.
- The Failure Site is not located directly in a USA, but the accident occurred on a segment that “could affect” a USA, should water be flowing in the drainage ditch. Review of the PHMSA National Pipeline Mapping System (NPMS) indicates the 12-inch EPT Pipeline traverses or is located within proximity to numerous High Consequence Areas (HCAs), including USAs. PHMSA believes that there are numerous portions of the EPT Pipeline system that could affect an HCA, as defined by 49 CFR §195.450.
- The mainline valves on both sides of the Failure Site are manually-operated valves (MOVs) and are near the same elevation as the drainage ditch. The topography of the area indicates that the pipeline descends approximately 900 vertical feet from the east downwards and towards the Failure Site. Much smaller elevation changes occur between the MOV to the west and the Failure Site. PHMSA anticipates that a large percentage of the released volume of gasoline was a result of the pipeline draining down from the higher areas to the east. (Note: The 12-inch-diameter pipeline contains approximately 785 barrels of line fill per mile of length).
- This line is critical for refined product supply to Tucson, Arizona, and other State of Arizona petroleum markets. Kinder Morgan informed PHMSA staff that because of the higher pressures needed to move product over mountainous terrain west of Deming, New Mexico, that their ability to reduce operating pressure and still be able to deliver product to Tucson is limited on LS-19, LS-21, and LS-22.
- Based on the Preliminary Findings set forth above, PHMSA believes that the following risks must be promptly addressed on the 12-inch EPT Pipeline:

1. The occurrence of highly aggressive corrosion in exposed pipeline areas where degraded tape wrap coating or ineffective cathodic protection may lead to corrosion-induced failure;
2. The rate of corrosion growth that may exceed the operator's ability to identify and respond using ILI surveys that are conducted at operator determined intervals which coincide with maximum time intervals allowed by CFR Part 195;
3. The relatively thin-wall pipe in the 12-inch EPT Pipeline system has very limited ability to withstand aggressive corrosion and still maintain safe containment at normal operating pressures established by original design and testing;
4. The presence of dynamic erosion caused by the topography, geology, and climate which may result in other pipeline segments of the 12-inch EPT Pipeline being unintentionally exposed, thereby rendering the designed corrosion-control systems ineffective; and
5. The pipeline's proximity to numerous HCAs, rivers, streams, and other pathways for spill migration and access time to MOVs poses a risk of an increased spill volume and subsequent environment damage.

Proposed Issuance of Safety Order

Section 60117(l) of Title 49, United States Code, provides for the issuance of a safety order, after reasonable notice and the opportunity for a hearing, requiring corrective measures that may include physical inspection, testing, repair, or other action, as appropriate. The basis for making the determination that a pipeline facility has a condition or conditions that pose a pipeline integrity risk to public safety, property, or the environment is set forth both in the above-referenced statute and 49 C.F.R. § 190.239, a copy of which is enclosed.

Accordingly, PHMSA issues this Notice of Proposed Safety Order to notify Respondent of the proposed issuance of a safety order and to propose that Respondent take measures specified herein to address the potential risks identified in the Preliminary Findings and other risks that may be determined as a result of the proposed corrective measures.

Proposed Corrective Measures

Pursuant to 49 U.S.C. § 60117(l) and 49 C.F.R. § 190.239, PHMSA proposes to issue to SFPP a safety order incorporating the following remedial requirements with respect to the company's 12-inch EPT Pipeline. SFPP must take the following corrective measures:

1. ***Pressure Restriction.*** Maintain a pressure restriction of 80% of the operating pressure at the time of the accident for the SFPP 12-inch EPT Pipeline sections designated LS- 17

(6.56 miles) and LS-18 (85.69 mile). LS 17 and LS -18 are located between the SFPP El Paso, Texas Breakout Tank Farm and the Deming, New Mexico pump station.

2. ***Removal of Pressure Restriction.*** The Director may allow the removal or modification of the pressure restriction described above upon a written request from Respondent demonstrating that restoring the SFPP 12-inch EPT Pipeline to its pre-failure operating pressure is justified, based on a reliable engineering analysis showing that the pressure increase is safe, considering all known defects, anomalies, and operating parameters of the pipeline. The Director's determination will be based on the information provided by the ongoing failure investigation, including the metallurgical testing results mandated in item 3 below.
3. ***Mechanical, Metallurgical and other Testing.*** Within 60 days of receipt of this Safety Order, Respondent must complete mechanical, coating, and metallurgical testing of the failed pipe segment by a third-party independent testing laboratory. Additionally, the Respondent must complete in-situ soil testing. The results must be summarized in a written analysis. Testing and analysis requirements are as follows:
 - a. Document the chain-of-custody when handling and transporting the failed pipe section and other evidence from the Failure Site;
 - b. Utilize the testing protocol provided by PHMSA;
 - c. Prior to beginning the mechanical and metallurgical testing, provide the Director with the scheduled date, time, and location of the testing to allow for an OPS representative to witness the testing; and
 - d. Ensure that the testing laboratory distributes all reports, whether draft or final, in their entirety to the Director at the same time they are made available to Respondent.
4. ***Use of Appropriate ILI Tool.*** Conduct a survey with an ILI tool that best characterizes the failed anomaly as determined by the metallurgical testing (See Corrective Measure - Item 3). The ILI must be conducted within 90 days of receipt of this Safety Order and preliminary results received from the ILI vendor analysts within 30 days of conducting the ILI survey.
5. ***Immediate-Repair Conditions.*** For all areas that could affect an HCA, SFPP must treat any ILI-identified anomalies that meet 49 CFR § 195.452(h)(4)(i)(A) or have a failure pressure ratio that is below a pressure of 1.10 times "maximum operating pressure plus maximum surge pressure" as an immediate-repair condition. All other ILI-identified anomalies on pipeline segments outside of "could affect" HCA areas must be treated as immediate-repair conditions if the calculated failure pressure ratio is below a pressure of 1.10 times "maximum operating pressure plus maximum surge pressure."

6. ***Survey of Exposed Pipeline Crossings.*** Complete a survey of all exposed pipeline crossings of the 12-inch EPT Pipeline within 90 days of receipt of this Safety Order, and identify any segments where the existing coating is 1) not appropriate for above-ground use, and 2) in areas where the pipeline segment should be lowered to provide external-damage protection and cathodic protection.
7. ***Updated Emergency Flow Restricting Devices (EFRD) Study.*** Complete and submit within 120 days of receipt of this Safety Order an updated EFRD study (per § 195.452 (i)(4)) for areas where a spill from the 12-inch EPT Pipeline could affect an HCA (as defined by § 195.450). The revised EFRD study shall identify where existing valves can be remotely actuated so that closure of a mainline valve to isolate the pipeline can commence within 15 minutes of a confirmed rupture.
8. ***Root Cause Failure Analysis.*** Within 180 days following receipt of this Safety Order, complete a root cause failure analysis (RCFA) and submit a final report of the RCFA to the Director. The RCFA must document the decision-making processes and all factors contributing to the Failure, including all findings revealed from PHMSA-mandated Corrective Measures 3, 4, 6, and 7 above. The final report must include findings and lessons learned. The RCFA must also include a discussion of whether the findings and lessons learned are applicable to other locations within SFPP's 12-inch EPT Pipeline system.
9. ***Remedial Work Plan.*** Within 45 days following receipt of the Root Cause Failure Report, Respondent must submit a Remedial Work Plan (RWP) to the Director for approval. The Director may approve the RWP incrementally without approving the entire RWP. Once approved by the Director, the RWP will be incorporated by reference into this Safety Order. The RWP must:
 - a) Specify the tests, inspections, assessments, evaluations, and remedial measures Respondent will use to verify the integrity of the SFPP El Paso to Tucson 12-inch pipeline. It must address all known or suspected factors and causes of the Failure. Respondent should consider both the risk and consequence of another failure to develop a prioritized schedule for RWP-related work along the entire 288-mile pipeline (SFPP LS- 17, 18, 19, 21, and 22);
 - b) A schedule to assess and remediate any pipeline anomalies where metal loss exceeds the criteria of § 195.452 (h), and are not immediate repairs, as defined in *Item 5- Immediate Repair Conditions*;
 - c) An implementation schedule to recoat any exposed pipeline crossing where there is degraded coating or the coating is not appropriate for protecting the pipeline against atmospheric corrosion; and
 - d) Integrate the results of the metallurgical testing, root cause failure analysis, and other corrective actions required by this Safety Order with all relevant pre-existing operational and assessment data for the EPT Pipeline. Pre- existing operational data

includes, but is not limited to, construction, operations, maintenance, testing, repairs, and prior metallurgical analyses. Pre-existing assessment data includes, but is not limited to, in-line inspection (ILI) tool runs, hydrostatic pressure testing, direct assessments, atmospheric corrosion surveys, exposed crossing surveys, close interval surveys, and DCVG/ACVG surveys conducted between January 1, 2009 and December 13, 2018 .

10. ***Revisions to the RWP.*** Revise the RWP as necessary to incorporate new information obtained during the implementation of the RWP as approved the Director.
11. ***Quarterly Reports.*** Submit quarterly reports to the Director that: (1) include available data and results of the testing and evaluations required by this Safety Order; and (2) describe the progress of the repairs and other remedial actions being undertaken.
12. ***Miscellaneous Provisions.***
 - a. The Director may grant an extension of time for compliance with any of the terms of this Safety Order upon a written request timely submitted demonstrating good cause for an extension.
 - b. Respondent may appeal any decision of the Director to the Associate Administrator for Pipeline Safety. Decisions of the Associate Administrator shall be final.
 - c. It is requested (not mandated) that Respondent maintain documentation of the safety improvement costs associated with fulfilling this Safety Order and submit the total to Chris Hoidal, Acting Director, Western Region, Pipeline and Hazardous Materials Safety Administration. It is requested that these costs be reported in two categories: 1) total cost associated with preparation/revision of plans, procedures, studies and analyses; and 2) total cost associated with replacements, additions and other changes to pipeline infrastructure.

The actions proposed by this Notice of Proposed Safety Order are in addition to and do not waive any requirements that apply to Respondent's pipeline system under 49 C.F.R. Parts 190 through 199, under any other order issued to Respondent under authority of 49 U.S.C. § 60101 et seq., or under any other provision of Federal or state law.

After receiving and analyzing additional data in the course of this proceeding and implementation of the work plan, PHMSA may identify other safety measures that need to be taken. In that event, Respondent will be notified of any proposed additional measures and, if necessary, amendments to the work plan or this Safety Order.

Response to this Notice

In accordance with 49 C.F.R. § 190.239, you have 30 days following receipt of this Notice to submit a written response to the official who issued the Notice. If you do not respond within 30

days, this constitutes a waiver of your right to contest this Notice and authorizes the Associate Administrator for Pipeline Safety to find facts as alleged in this Notice without further notice to you and to issue a safety order. In your response, you may notify that official that you intend to comply with the terms of the Notice as proposed, or you may request that an informal consultation be scheduled (you will also have the opportunity to request an administrative hearing before a safety order is issued). Informal consultation provides you with the opportunity to explain the circumstances associated with the risk conditions alleged in the Notice and, as appropriate, to present a proposal for a work plan or other remedial measures, without prejudice to your position in any subsequent hearing. If you and PHMSA agree within 30 days of informal consultation on a plan and schedule for you to address each identified risk condition, we may enter into a written consent agreement (PHMSA would then issue an administrative consent order incorporating the terms of the agreement). If a consent agreement is not reached, or if you have elected not to request informal consultation, you may request an administrative hearing in writing within 30 days following receipt of the Notice or within 10 days following the conclusion of an informal consultation that did not result in a consent agreement, as applicable. Following a hearing, if the Associate Administrator finds the facility to have a condition that poses a pipeline integrity risk to the public, property, or the environment in accordance with § 190.239, the Associate Administrator may issue a safety order.

Be advised that all material you submit in response to this enforcement action is subject to being made publicly available. If you believe that any portion of your responsive material qualifies for confidential treatment under 5 U.S.C. 552(b), along with the complete original document you must provide a second copy of the document with the portions you believe qualify for confidential treatment redacted and an explanation of why you believe the redacted information qualifies for confidential treatment under 5 U.S.C. 552(b).

In your correspondence on this matter, please refer to CPF **5-2018-5007S** and for each document you submit, please provide a copy in electronic format whenever possible.



Chris Hoidal
Acting Director, Western Region
Pipeline and Hazardous Materials Safety Administration

12/29/18
Date issued